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Abstract

Implanting at an alternate location (in the muscle or fat pad at the base of the ear) or crushing the pellets did not appear to cause side effects or adversely affect animal performance. However, implanting at the alternate location significantly improved (6.6%) average daily gain in all three trials. Based on these and other studies, the recommended location for Ralgro implants is as close to the base of the ear as possible.

Keywords

Cattlemen's Day, 1980; Report of progress (Kansas State University. Agricultural Experiment Station); 377; Beef; Implants; Performance; Average daily gain

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Effects of Location and Crushing Ralgro Implants on Cattle Performance (Summary of Three Trials)^{1,2}

Larry R. Corah, Steve D. Plegge, and Gene Francis

Summary

Implanting at an alternate location (in the muscle or fat pad at the base of the ear) or crushing the pellets did not appear to cause side effects or adversely affect animal performance. However, implanting at the alternate location significantly improved (6.6%) average daily gain in all three trials. Based on these and other studies, the recommended location for Ralgro implants is as close to the base of the ear as possible.

Introduction

In recent years, use of anabolic implants has increased dramatically. Efficacy of these compounds for promoting growth in cattle of various weights is well established. Periodically, treated cattle show side effects such as excessive udder development, elevated tail heads, and increased "bulling." The role that improper implanting technique may play in causing such effects has not been studied.

Experimental Procedure

The following three studies were initiated to determine effects of where Ralgro is implanted and whether crushing the pellet produces side effects or influences growth rate. Two Kansas ranchers cooperated. In all three trials, the treatments were:

1. non-crushed - recommended location
2. crushed - recommended location
3. non-crushed - alternate location
4. crushed - alternate location

The recommended implant location was subcutaneous on the backside of the mid part of the ear, one inch from its base. The alternate location was at the point of attachment of the ear. Pellet crushing was accomplished by making a slight indentation of the implant needle. The recommended dosage, 36 mg, was always used.

Initially, all cattle were weighed after 2 to 3 hours off feed and were randomly allotted to eliminate a shrink effect. At the end of the

¹Ralgro is a product of the International Minerals and Chemical Corporation, Terre Haute, Ind.

²Appreciation is expressed to the cooperating ranchers: Jim Harper, Ashland, Kansas, and David Holbrook, Washington, Kansas, and to County Agents Gary Keeler, Washington County, and Ed Laverty, Clark County, for assisting in data collection.

trial, cattle were weighed in random order. All weights were taken on portable scales that weighed to the nearest 5 lbs. Cooperating producers observed cattle daily for side effects.

Trial 1 (Heifers)

The initial trial was at the Jim Harper ranch near Ashland, Kansas. Cattle were implanted October 11, 1977. The Brahman-cross heifers, grazing on wheat pasture, were weighed after 30 days (November 10). Final weights were taken after 100 days (January 19, 1978). At the end of the trial, udders were subjectively evaluated for possible edema or unusual enlargement.

Results of trial 1 are shown in table 22.1. Crushing the pellet had no significant effect on animal performance. However, heifers implanted at the alternate location gained 3.5% faster ($P < .10$).

Table 22.1. Results of trial 1.

Treatment		No.	Pounds					ADG trial	Avg. udder development score*
Location	crushed		Starting weight	30-day weight	Wt. gain 30 days	Final wt.	Wt. gain total		
Recommended	No	53	348.4	379.4	31.0	502.9	154.5	1.55	1.3
Recommended	Yes	54	335.4	361.6	26.2	493.4	158.0	1.58	1.28
Alternate	No	53	337.5	370.9	33.4	499.9	162.4	1.62	1.28
Alternate	Yes	53	341.4	374.5	33.1	503.7	162.3	1.62	1.34

* Scoring system for udder development in implanted heifers: 1 = natural development, no abnormalities; 2 = slight abnormality (teat elongation); 3 = abnormal development (teat elongation, some udder development); 4 = extremely abnormal development.

Trial 2 (Heifers)

A second trial at the Jim Harper ranch near Ashland, Ks., started October 28, 1978, with 180 yearling Brahman-cross heifers randomly allotted to the four treatments. After 104 days, the heifers were re-weighed February 9, 1979. They were maintained on a wheat pasture with approximately 1 pound of a liquid protein supplement per head daily. Hay was fed during adverse weather.

Results are shown in table 22.2. Confirming trial 1, crushing the pellet had no adverse effect on average daily gain. Again, heifers implanted at the alternate location gained faster ($P < .05$) (10.6%) than those implanted at the recommended location. No unusual side effects were noted in any heifer in the trial, although at final weighing, one (in the crushed-recommended location group) showed unusual udder development.

Trial 3 (Steers)

This trial was conducted at the David Holbrook farm near Washington, Ks., with 160 mixed steers averaging 840 pounds randomly assigned to the

four treatments October 27, 1978. After 85 days, the steers were weighed off trial January 20, 1979. The high concentrate feedlot ration shown in table 22.3 was fed during the trial.

Implant crushing had no effect on animal performance. However, implanting at the alternate location resulted in a 0.2 lb/head/day (5.8%) improvement in average daily gain ($P < .05$). Results of trial 3 are shown in table 22.4.

Table 22.2. Results of trial 2.

Treatment	No.	Starting weight	Final weight	Lbs. gained	Avg. Daily gain
Non-crushed, recommended	44*	376.1	487.2	111.1	1.07
Crushed, recommended	44**	375.0	481.1	106.1	1.02
Non-crushed, alternate	45	383.6	499.0	115.5	1.11
Crushed, alternate	45	369.0	491.2	122.2	1.18

*One heifer died.

**One heifer showing noticeable udder development at final weighing.

**One heifer could not be weighed at the end of the trial.

Table 22.3. Ration composition.

Ingredient	% (as fed)
Head chop milo	49.8
High moisture milo (bunker)	25.0
Forage sorghum silage	17.6
Rolled corn	5.0
Supplement ^a	2.6

^aSupplied 250 mg Rumensin per head daily and contained 16% NPN.

Table 22.4. Influence of implanting technique on performance.

Location status of implant	Treatment 1 Recommended non-crushed	Treatment 2 Recommended crushed	Treatment 3 Alternate non-crushed	Treatment 4 Alternate crushed
No. of steers	37	39	38	37
Avg. initial wt., lbs.	833	848	832	848
Avg. final wt., lbs.	1123	1137	1134	1156
Days fed	85	85	85	85
Avg. daily gain, lbs.	3.41	3.39	3.55	3.62